

BIG DATA – EasyPark Case Study

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Big Data – The ultimate quest

- Every industry is talking about big data
- The parking industry conferences are filled with groups talking about Big Data
- Because we all need more data... Right?

Really Big Data

- EasyPark is 69 years old in 2016
- Here is our really big data



Really Big Data

Meet Tim,
...he goes to get our data...

Will Big Data help Tim?



What is Big Data?

- Big Data is a term to describe data sets that are too large or complex for traditional data processing applications to handle
- Often times, Big Data implies multiple data sets that must be combined
- Industries currently leveraging Big Data:
 - Internet search
 - Medicine
 - Finance

Big Data vs Micro Data

- EasyPark worked backwards to determine the ultimate need of data.
- Data for the sake of data is hard to justify.
- We instead started out to solve specific problems that exist in our world.
- Enforcement was that big specific problem that needed targeted data solutions.

Big Data vs Micro Data

Enforcement

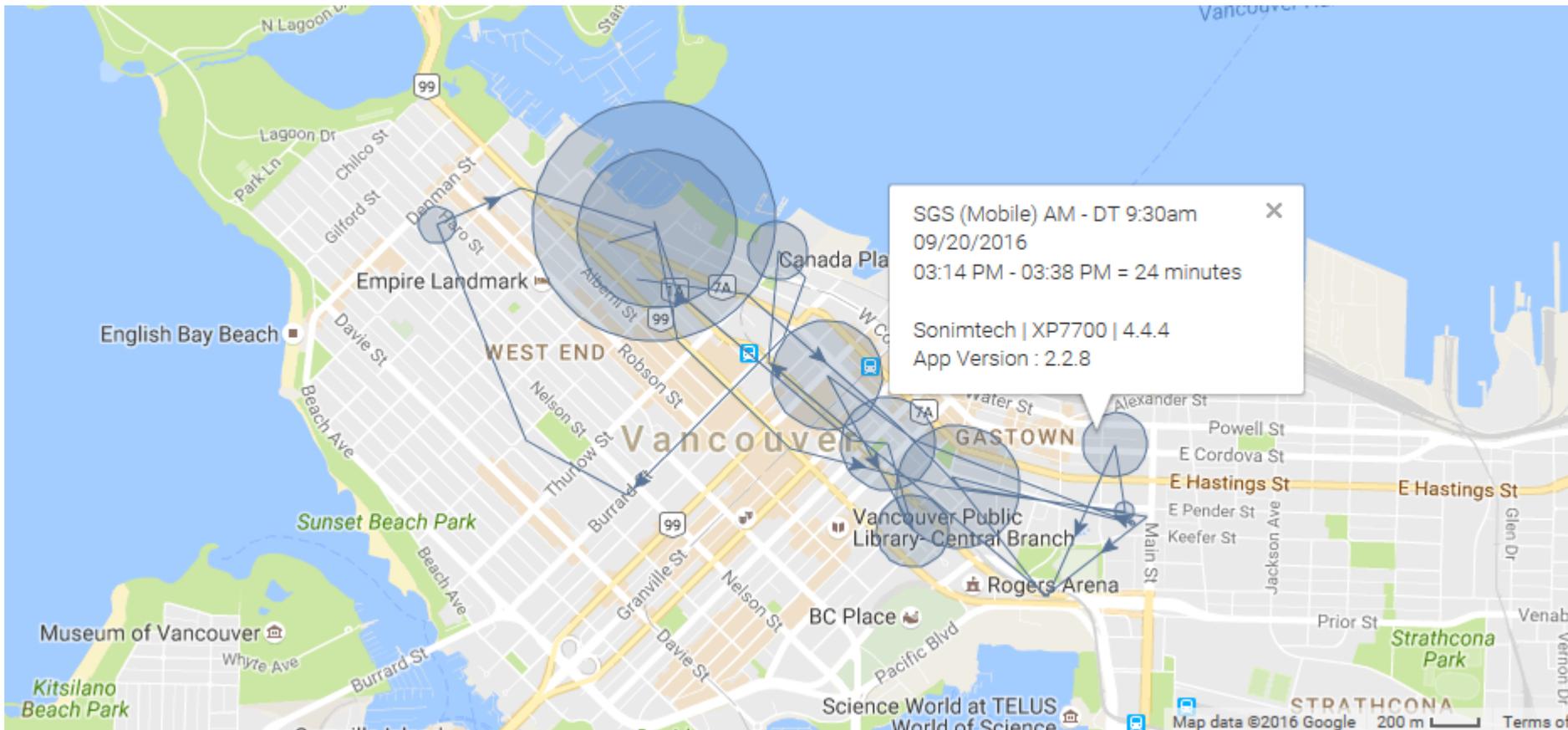
- Although we have large amounts of data on enforcement results, we are missing some basic pieces that other industries have.

1. Where an enforcement patroller is at any given time, or where they have been.
2. Where they should go, what lots, which times on what days.

Big Data vs Micro Data

Where an enforcement patroller is at any given time, or where they have been.

- To solve this we turned to an Ontario Company; HiHo
- HiHo has a product that uses data and GPS to map where people are in real time and add historically reporting.
- The resulting heat maps quickly provide a story about activities:



Big Data vs Micro Data

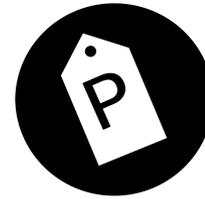
Where they should go, what lots, which times on what days.

- This is a more complicated process
- There are a few options:
 - Digital Iris
 - Smarking
 - Where are people parking
 - Where does enforcement go?
 - Future – Where is available parking
 - COV
 - EP is bringing Smarking to Canada.

Goals of the Partnerships

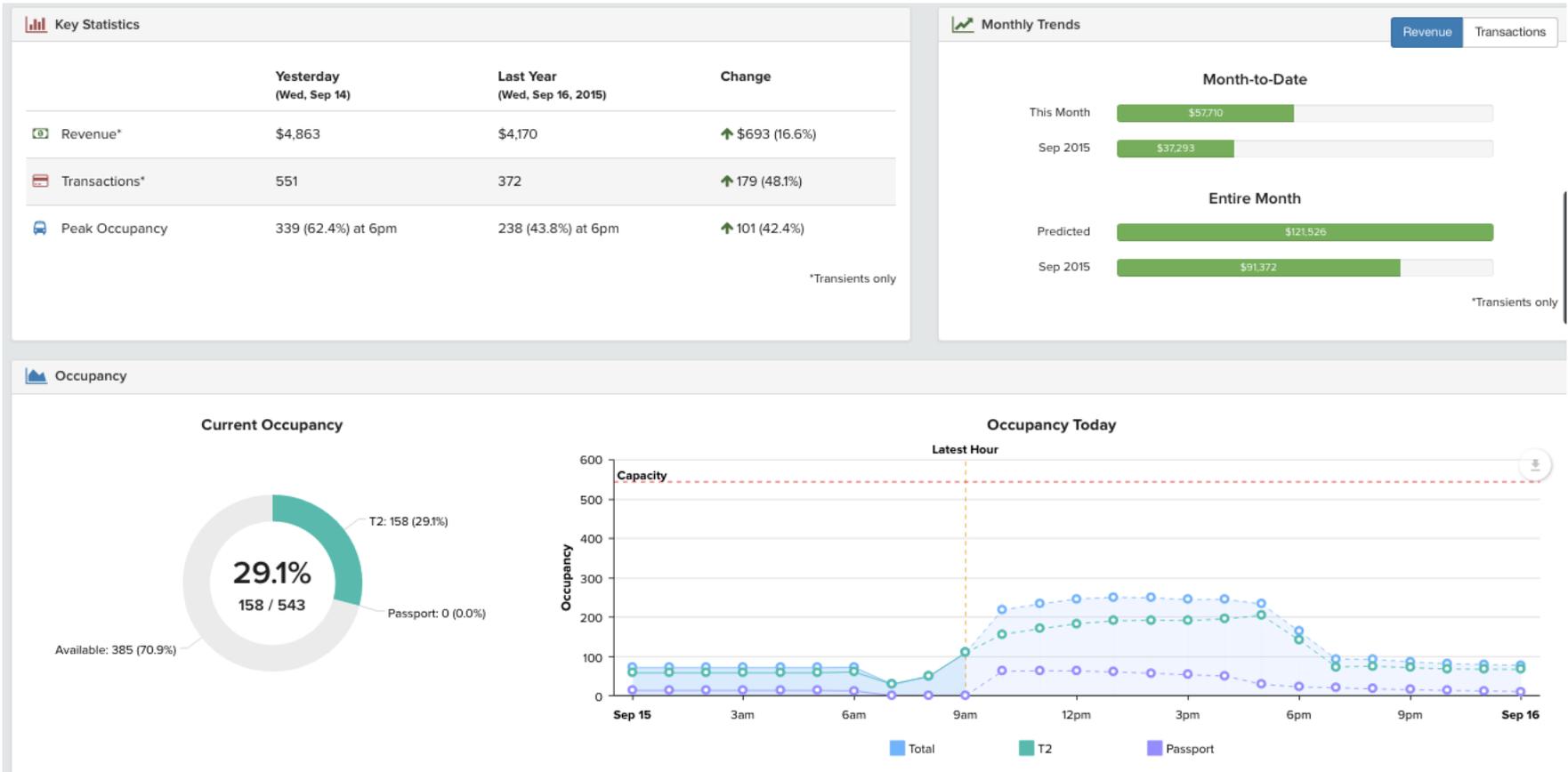
- Aggregate and normalize all of EasyPark's parking data
 - Currently working with 4 distinct parking data sources over ~60 lots and garages
- Visualize the combined data set in ways that enables the EasyPark team to make fast and effective decisions

Parking Data Sources



EasyPark currently has ~20 GB of transaction data on Smarking's servers, with more coming in every day!

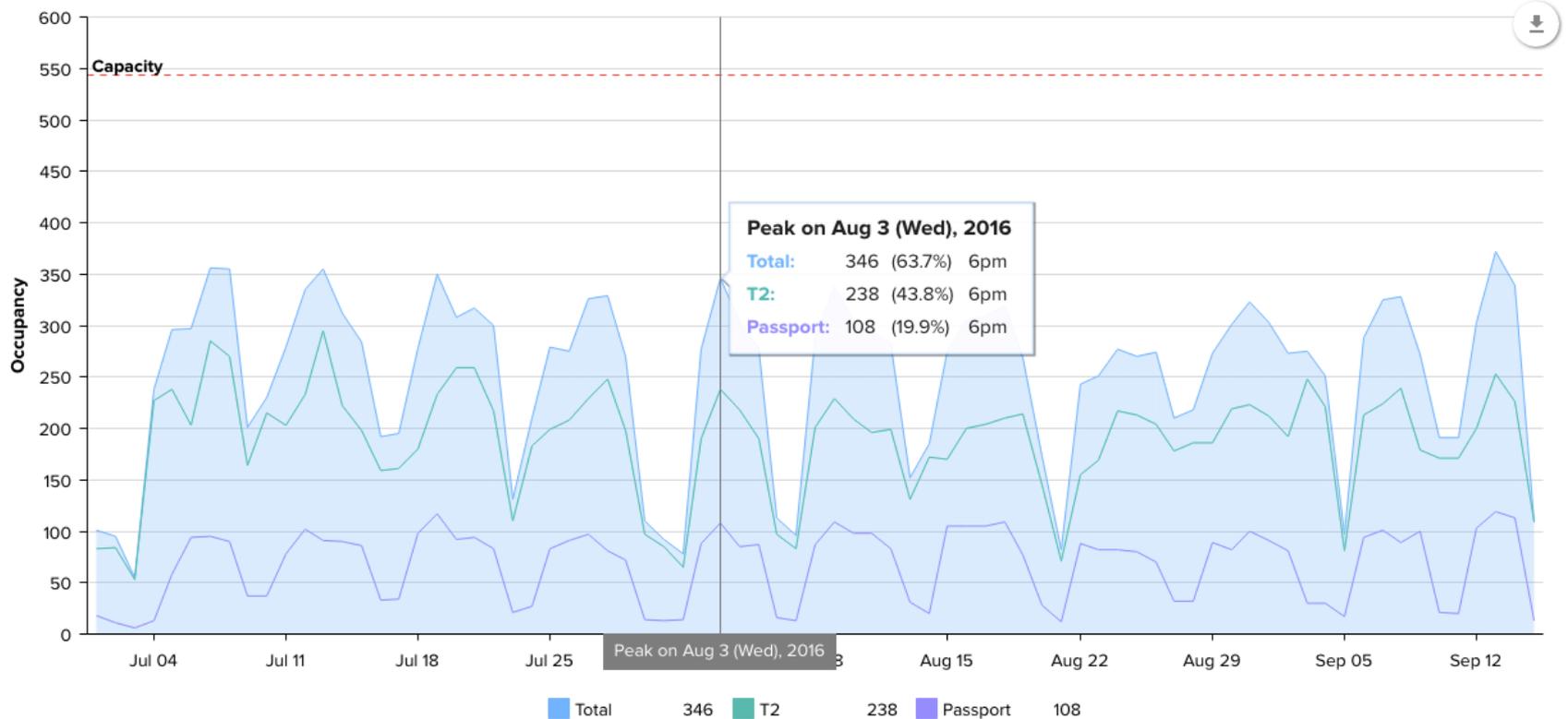
Results: Monitoring made easy



Results: Understand historical occupancy

Daily Peak Occupancy

Jul 01, 2016 | Sep 15, 2016 | Time Range | Daily



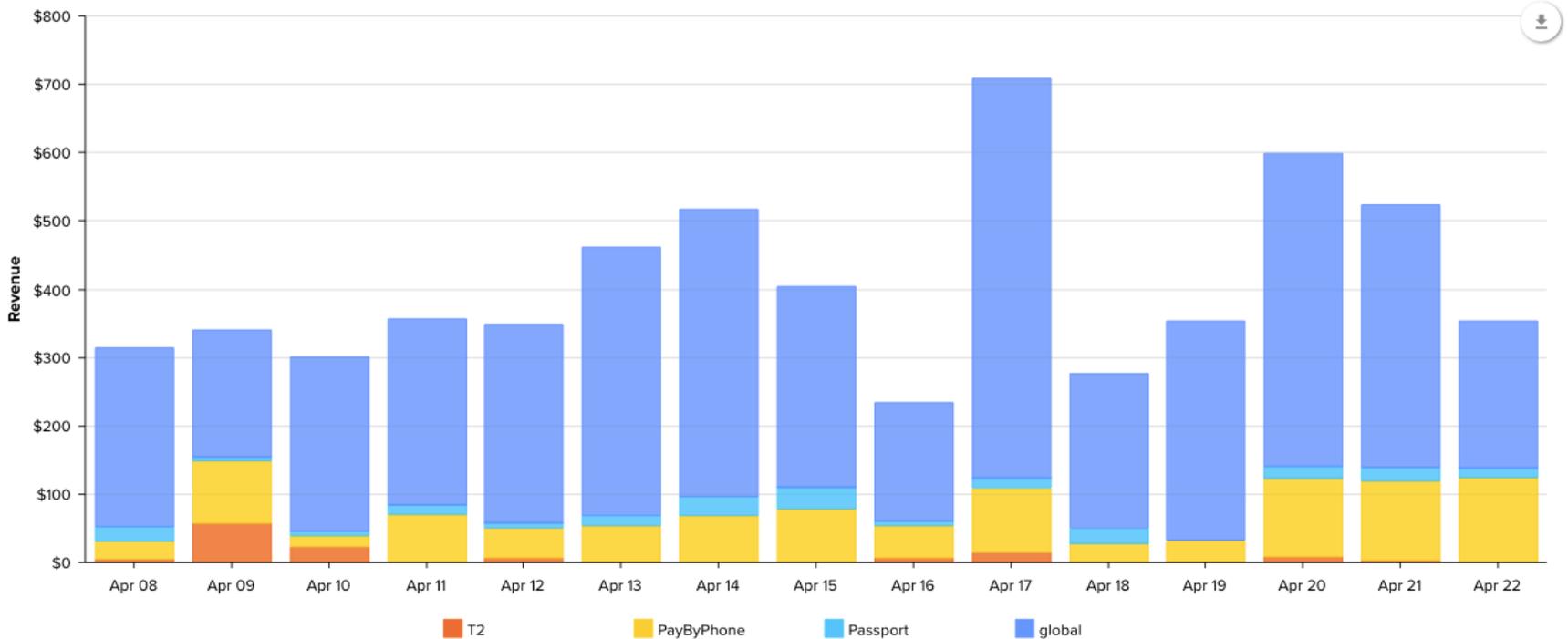
Results: Duration by system



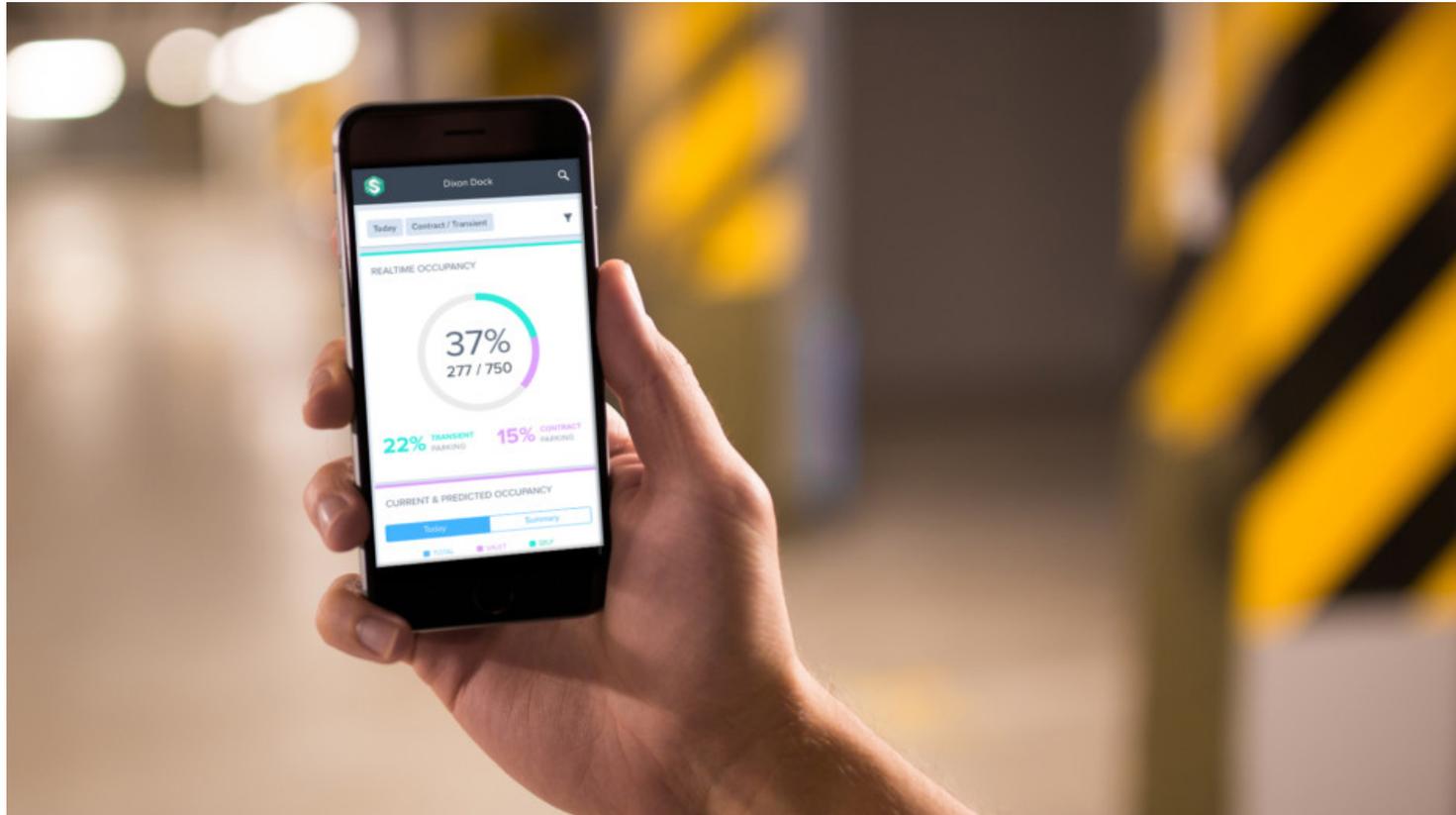
Results: Revenue Contribution

Apr 08, 2016 Apr 22, 2016 Time Range Daily

Revenue by Group



Results: Optimized for Mobile



So is it Big Data or Micro Data?

- Well it's both: 20 GB, 4 data sources, roughly 30 million data points... that's a lot of data!
- But in applying the data, our goals are targeted:
 - Allow EasyPark to understand occupancy in real time, on their desktop and mobile phones
 - Better monitor key statistics
 - Understand historical occupancy to prepare for events / seasonality
 - Monitor revenue for real time loss prevention
 - Make smarter pricing decisions based on expected parking duration

Questions and Answers!

